

WHAT IS CLAIMED IS

1. An optical filter comprising:

a plurality of birefringent plates that spatially divide incident light along directions each extending perpendicular to a direction in which the incident light advances to achieve two separate light fluxes respectively; and

at least one phase plate provided between the plurality of birefringent plates, that creates a specific quantity of a phase difference between a light component vibrating in one vibrating direction and a light component vibrating in another vibrating direction extending perpendicular to the one vibrating direction for the two light fluxes emitted from one of the plurality of birefringent plates, without dividing the two light fluxes,

wherein the plurality of birefringent plates are thinner than the phase plate.

2. An optical filter according to claim 6, further comprising:

an IR cut filter comprising an optical element integrated with the plurality of birefringent plates and the phase plate.

3. An optical filter according to claim 6, wherein:

an IR cut coating is provided at a surface of at least one of the plurality of birefringent plates and the phase plate.

4. An optical filter comprising:

a plurality of birefringent plates that spatially divide incident light along directions each extending perpendicular to a direction in which the incident light advances to achieve two separate light fluxes respectively; and

at least one phase plate provided between the plurality of birefringent plates, that creates a specific quantity of a phase difference between a light component vibrating in one

vibrating direction and a light component vibrating in another vibrating direction extending perpendicular to the one vibrating direction for the two light fluxes emitted from one of the plurality of birefringent plates,

wherein the plurality of birefringent plates are thinner than the phase plate and less than 0.5mm in thickness.

5. An optical filter according to claim 9, further comprising:

an IR cut filter comprising an optical element integrated with the plurality of birefringent plates and the phase plate.

6. An optical filter according to claim 9, wherein:

an IR cut coating is provided at a surface of at least one of the plurality of birefringent plates and the phase plate.

7. An optical filter comprising:

a first birefringent plate that converts incident light into linearly polarized light;
a phase plate that converts the linearly polarized light achieved at the first birefringent plate into circularly polarized light; and

a second birefringent plate that converts the circularly polarized light achieved at the phase plate into linearly polarized light, wherein:

the phase plate is provided between the first birefringent plate and the second birefringent plate; and

the first birefringent plate and the second birefringent plate are thinner than the phase plate.

8. An optical filter according to claim 12, further comprising:

an IR cut filter comprising an optical element integrated with the first birefringent plate, the second birefringent plate and the phase plate.

9. An optical filter according to claim 12, wherein:

an IR cut coating is provided at a surface of at least one of the first birefringent plate, the second birefringent plate and the phase plate.

10. An optical filter comprising:

a first birefringent plate and a second birefringent plate that spatially divides incident light along directions extending perpendicular to each other and each extending perpendicular to a direction in which the incident light advances; and

a phase plate provided between the first birefringent plate and the second birefringent plate, that creates a specific quantity of a phase difference between a light component vibrating in one vibrating direction and a light component vibrating in another vibrating direction extending perpendicular to the one vibrating direction for the two light fluxes emitted from the first birefringent plate,

wherein the first birefringent plate and the second birefringent plate are thinner than the phase plate.

11. An optical filter according to claim 15, further comprising:

an IR cut filter comprising an optical element integrated with the first birefringent plate, the second birefringent plate and the phase plate.

12. An optical filter according to claim 15, wherein:

an IR cut coating is provided at a surface of at least one of the first birefringent plate, the second birefringent plate and the phase plate.

13. An optical filter comprising:

a first birefringent plate and a second birefringent plate that spatially divides incident light along directions each extending perpendicular to a direction in which the incident light advances to achieve a total of four separate light fluxes; and

a phase plate provided between the first birefringent plate and the second birefringent plate, that creates a specific quantity of a phase difference between a light component vibrating in one vibrating direction and a light component vibrating in another vibrating direction extending perpendicular to the one vibrating direction for the light fluxes emitted from the first birefringent plate,

wherein the first birefringent plate and the second birefringent plate are thinner than the phase plate.

14. An optical filter according to claim 18, further comprising:

an IR cut filter comprising an optical element integrated with the first birefringent plate, the second birefringent plate and the phase plate.

15. An optical filter according to claim 18, wherein:

an IR cut coating is provided at a surface of at least one of the first birefringent plate, the second birefringent plate and the phase plate.

16. An optical filter comprising:

a plurality of birefringent plates that spatially divide incident light along directions each extending perpendicular to a direction in which the incident light advances to achieve two separate light fluxes respectively;

at least one quarter-wave plate provided between the plurality of birefringent plates,

wherein the plurality of birefringent plates are thinner than the quarter-wave plate.

17. An optical filter according to claim 21, further comprising:
an IR cut filter comprising an optical element integrated with the plurality of birefringent plates and the quarter-wave plate.
18. An optical filter according to claim 21, wherein:
an IR cut coating is provided at a surface of at least one of the plurality of birefringent plates and the quarter-wave plate.
19. A camera that electrically photographs a subject with an imaging apparatus, comprising:
an optical filter that comprises:
a plurality of birefringent plates that spatially divide incident light along directions each extending perpendicular to a direction in which the incident light advances to achieve two separate light fluxes respectively; and
at least one quarter-wave plate provided between the plurality of birefringent plates,
wherein the plurality of birefringent plates are thinner than the quarter-wave plate.
20. An imaging apparatus comprising:
a photographic optical system;
an image capturing device that forms an image of light flux that has passed through the photographic optical system; and
an optical filter provided between the photographic optical system and the image capturing device,
wherein the optical filter comprises:

a plurality of birefringent plates that spatially divide incident light along directions each extending perpendicular to a direction in which the incident light advances to achieve two separate light fluxes respectively; and

at least one quarter-wave plate provided between the plurality of birefringent plates,

wherein the plurality of birefringent plates are thinner than the quarter-wave plate.